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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,350	03/27/2001	Masami Kanasugi	FUJX 18.514	1201
26304	7590	11/18/2004	EXAMINER	
KATTEN MUCHIN ZAVIS ROSENMAN			DO, CHAT C	
575 MADISON AVENUE			ART UNIT	
NEW YORK, NY 10022-2585			PAPER NUMBER	

2124

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/818,350

Applicant(s)

KANASUGI ET AL.

Examiner

Chat C. Do

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07/30/04; 06/09/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This communication is responsive to Amendment, filed 06/09/2004.
2. Claims 1-10 are pending in this application. Claims 1, 5, and 9-10 are independent claims. In Amendment, claims 1, 5, and 9-10 are amended. This action is made non-final.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5-7, and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by D'Luna et al. (U.S. 5,311,459).

Re claim 1, D'Luna et al. disclose in Figure 2 an over-sampling FIR filter for filtering with a clock having a frequency higher than a frequency of accepting input data, comprising: a shift register (12) having a plurality of holding parts (I1-I4) connected in cascade for sequentially accepting input data (CI\_IN); a plurality of selectors (M1-M3) respectively formed corresponding to holding parts for selecting, a predetermined number of tap factors (12 coefficients) from a plurality of tap factors, in which the selecting is done sequentially in each selector in synchronization with clock (1/3 clock); a plurality of multipliers (3 multipliers in Figure 2) formed respectively corresponding to holding parts for respectively

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multiplying input data held in holding parts, by tap factors selected by selectors corresponding to holding parts; and an adder (A1) for adding the multiplication result (B2-B4) from multipliers and outputting the resultants as output data (OBI), and wherein one or more of selectors change predetermined number of tap factors to be selected and the rest of selectors change patterns of the selected tap factors (14 by the control circuits 15), in accordance with a change in the number of oversamples, which is the number of tap factors to be multiplied by single input data (routing in sequence) and input data is multiplied always by the same tap factors in a same order, regardless of the change in the number of oversamples (in general, the prior invention disclose a circuit for computing equations 2-4 in column 3 wherein the coefficients are unchanged for difference input data or oversamples as seen col. 4 lines 66-68 and col. 5 lines 50-63).

Re claim 2, D'Luna et al. further disclose in Figure 2 a part of plurality of tap factors respectively selectable by selectors adjacent to one another are shared by selectors (14 is the routing coefficient circuit wherein the coefficients are propagated to all the coefficient registers C1-C12).

Re claim 3, D'Luna et al. further disclose in Figure 2 a tap controlling unit for instructing selectors tap factor to be selected first in accordance with a change in number of over-samples (15).

Re claim 5, it is a method claim of claim 1. Thus, claim 5 is also rejected under the same rationale in the rejection of rejected claim 1.

Re claim 6, it is a method claim of claim 2. Thus, claim 6 is also rejected under the same rationale in the rejection of rejected claim 2.

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Re claim 7, it is a method claim of claim 3. Thus, claim 7 is also rejected under the same rationale in the rejection of rejected claim 3.

Re claim 9, it is an integrated circuit claim of claim 1. Thus, claim 9 is also rejected under the same rationale in the rejection of rejected claim 1.

Re claim 10, it is a system claim of claim 1. Thus, claim 10 is also rejected under the same rationale in the rejection of rejected claim 1.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being obvious over D'Luna et al. (U.S. 5,311,459).

Re claim 4, D'Luna et al. do not disclose in Figure 2 that when number of over-samples is changed, tap controlling unit changes tap factors selected by selectors back to predetermined tap factors used prior to the changing of number of over-samples, in which every time input data is accepted, the changes of tap factors are performed in sequence, starting from selector corresponding to holding part at the input side. However, the examiner take an official notice that it is well known in the art that each time the sampling rate or data rate is changed, the coefficients are reset in order to obtain the correct output. Therefore, it would have been obvious to a person having ordinary skill in the art the time the

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invention is made to add a reset mode of resetting the coefficients when the sampling rate is changed into D'Luna et al.'s invention because it would enable to increasing the system performance and simplify the system circuitry of obtaining the filter output of a dynamic sampling rate.

Re claim 8, it is a method claim of claim 4. Thus, claim 8 is also rejected under the same rationale in the rejection of rejected claim 4.

### ***Response to Arguments***

5. Applicant's arguments filed 06/09/2004 have been fully considered but they are not persuasive.

a. The applicant argues in page 6 for all independent claims 1, 5, 9 and 10 that the cited reference by D'Luna does not disclose the input data is multiplied by tap factors that are the same as what is was before the change and is multiplied in the same order.

The examiner respectfully submits that based on the current language the cited preference by D'Luna clearly discloses the limitations cited in the independent claims wherein the coefficients C1-C12 are known and unchanged coefficient as seen in equations 2-4 in column 3 as arranged in matrix format. In Figure 2, all the mux(es) are connected to a controller by a single line, therefore all the mux(es) are output in sequentially order as {c6-c9-c12} for M1; {c5-c8-c11} for M2; and {c4-c7-c10} for M3 (col. 5 lines 50-63). Unlike Figure 4 of the present application, whenever the oversamples are changed all mux(es) are either reset or continue at present

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sequence because of the single control line from the controller to the mux(es).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721.

The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do  
Examiner  
Art Unit 2124

November 3, 2004



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